

Nov. 10 1871

## Report on the Outbreak of Typhus Fever at Chesham, Bucks.

APPLICATION having been made to the Local Government Board for inspection of the town of Chesham, in the Amersham Union, on account of the prevalence of fever, measles, and diarrhœa, I was instructed to visit and inspect the town, and to report on the epidemic.

The Census of 1871 gives 6,746 as the population of the Chesham sub-district; of this number upwards of 5,000 reside in Chesham town; which, for the purpose of this Report, may be understood to include, with Chesham Old and New Towns, the hamlet of Waterside.

In 1870 the Chesham sub-district had 3 deaths from fever; 1 in the third, and 2 in the fourth quarter. To the end of August in the present year, there had been but 1 fever death; but, between the end of August and the 14th of October, there were 13 deaths from fever. In 1870 there were not any deaths recorded under the heading measles. In 1871, to the 30th of September, there were 2 deaths referred to this cause, both in the third quarter. In 1870 there were 16 deaths from diarrhœa, 12 of them in the third quarter. In 1871, to September 30th, there have been 13 from the same malady; 11 of them in the third quarter, and all but 3 very young children. I was told that Chesham is considered a healthy place. Phthisis is, however, reported prevalent, and diarrhœa is usually common about harvest time. Low fever, probably enteric, occurs from time to time, and last year was rather prevalent at Waterside.

*Typhus.*—The present epidemic of fever has been true *typhus*. It was imported into Chesham Old Town in May last, and spread in the following manner:—Two shoemakers, tramps, of whose previous movements the only information to be got is, that they came from Wales, arrived at Chesham, and put up at a low beer-shop, which, opening in front into Church Street, and at the back into Hearn's Yard, is much frequented by the inhabitants of those neighbourhoods. Within forty-eight hours of their arrival, one of them was taken ill somewhat suddenly; on application to the Relieving Officer, he was admitted into the Union at Amersham, where his case was pronounced "fever." He recovered, and went away from the town, and no further information can be got of him. There was no spread of the disease, from him, in the Workhouse. In about ten days his companion, who had slept in the same bed with him, also fell ill, but remained at the beer-house above-mentioned. In a few days more another man, who had been constantly at the beer-shop, and in communication with both men from their arrival, was taken ill with fever. A woman, living in Hearn's Yard, nursed him; just as he began to get well, after a fortnight's illness, she, too, was seized with fever. From this time fresh cases occurred more frequently, so that by the end of September there had been, in Hearn's Yard, and the adjoining part of Church Street, 38 cases of fever, with 5 deaths. About this time the two medical men who had attended the sick also fell ill with the fever, and medical assistance had to be obtained from London. Hitherto the epidemic had been confined to the neighbourhood above-mentioned, where every man's house seemed open to every one else, sick or well; but now cases began to be dotted about the town. The following is an instance of the manner in which the fever was spread:—At Star Yard, distant half a mile, lived a woman, her husband, and four children; a grown-up daughter, residing in Hearn's Yard, took fever, and was laid up there; the mother went daily to nurse her, returning home at night to sleep in the same room and bed with the family. Soon after the daughter began to get well her mother was seized with fever, and within forty-eight hours, at the longest, of her attack, her husband and two of the children were down with it.

As to the nature of this fever there can be no doubt. It was typhus. Of the



patients I saw, many had a well-marked mulberry rash over chest and abdomen; they were deaf and stupid, with dry, black tongues, and sordes on the lips and teeth. As a rule the disease, I was told, commenced somewhat suddenly, ran its course in two weeks, and in the majority of cases terminated favourably. In the fatal cases death occurred about the end of the second week. Of 12 deaths, 9 were people above 40.

*Measles.*—Towards the end of September measles, so called, became prevalent in Chesham, beginning, it appears, in Hearn's Yard and Church Street. At the time of my visit several children in Hearn's Yard were reported to be suffering from measles. I found them in the fever-stricken cottages; in some cases in bed with fever patients. In one cottage a child of 13 months, with so-called measles, lay between its father and mother, who were both ill with typhus; in another, all the residents, except two children, 6 and 8 years old, had had illness recognized as fever. These two children were ill in bed; they had running at the nose, and some lachrymation, a dark-coloured rash, of small pattern, over the chest, abdomen, and arms, but none on the face. In a third cottage a girl of 14, who had had measles some years before, and who had recently nursed her mother through fever, showed similar symptoms, that were put down as measles. These cases of so-called measles did not appear at all serious, and excited but little attention. I noticed, however, that the older the child the more severe was the case. Not one of the cases proved fatal. Without affirming that there was no measles prevalent in the town, I have no doubt that the eruption of typhus, occurring without serious symptoms, and passing off after a few days had, in these and similar cases, been mistaken for that of measles. I cannot give an opinion as to the nature of the fatal disease in two cases, registered measles and pneumonia, in the third quarter of the present year.

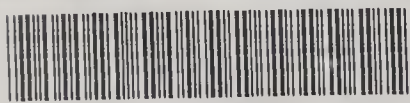
*Diarrhœa.*—Of diarrhœa, which appears to be habitually fatal to young children in the town in the third quarter of each year, I found the amount had not been greater than customary.

*Topography.*—Chesham lies in a hollow of the Chalk Hills, and is built partly on a flat of alluvium bordering *the brook* that runs from north to south on the way to the mill-pond, and partly on the chalk, which forms the rising ground on either side of the brook. Its population fluctuates from time to time, and contains, it is thought, an exceptional number of tramps, who come to work for a few weeks or months, and then remove elsewhere. Its manufactures are chiefly shoes and chairs, giving employment to the male population; while women and children are engaged in brush-making and straw plaiting.

*Water Supply.*—The water-supply is obtained from three sources. 1. In the New Town from wells, which are sunk often 20 to 30 feet into the chalk. 2. In the Old Town from wells, which are commonly sunk in the alluvial gravel; often within a few feet of what is termed the brook, but which is, as a matter of fact, the common sewer of the town. Here water is reached at a depth of 3 feet, or even less. Wells are numerous, and people commonly make their own. Some are bricked to a depth of several feet; but the bricks are not set in cement, and, in many cases, not even in mortar; others are not bricked at all: almost all are covered. 3. At the hamlet of Waterside, where the ground lies low, and is in places swampy, some of the inhabitants obtain water from springs, which bubble up, often close to the river-side. These springs are roughly boarded round, as a protection from flood and surface water. In one, at the edge of the millstream, were a number of minnows; and there was evidently free communication with the stream.

The water is good in the New Town, and runs small risk of pollution. It is of doubtful quality in the Old Town, where there is, in many cases, soakage from the brook through the porous alluvial gravel. In Waterside, besides the cases where the brook sewage directly enters the springs, there are others where springs receive foul surface-washings in time of flood.

*Drainage and Sewerage.*—The only system of sewerage in Chesham consists of surface-channels discharging into the brook. Into these channels the surface-water and house-slops are received. The brook, besides receiving the contents of these channels, is also a receptacle for refuse from slaughterhouses and the contents of numerous privies. From its source, just below the cemetery, it runs through the town, often under houses, in a line nearly parallel to the High Street, and empties itself into the mill-pond, having been just previously joined by another brook that comes from the high ground to the westward. Sooner or later, according to the amount of water flowing in the brook, the various abominations referred to find their





way into the mill-pond, which, at its upper end, presents a huge expanse of black slush, the smell of which is most nauseating. Here the greater part of the town sewage remains, causing, as may be imagined, an intolerable nuisance. In times of flood, when a good deal of filth passes the mill, and is churned up by the wheel, the smell is, I am informed, so sickening that few people can be got to remain in the place. At the time of my visit the springs supplying water from the northward were dry, and the brook, notwithstanding occasional flushing from the breweries, practically stagnant. Since the brook is in some places open, and in others merely covered by the boards forming the floors of houses, the stench arising in its neighbourhood may be imagined. In some cases—as, for instance, where the nature of the ground does not admit of drainage into the brook—the following course is adopted: large covered pits, called dead wells, are sunk near—often within a few feet of—dwellings, for the reception of house-sewage. I found three of these “dead wells” close to one block of cottages, one of them within 10 feet of the well used by the inhabitants.

*Excrement Disposal.*—There are, I am told, less than twenty water-closets in the town, discharging either into cesspools or into the brook. The excrement of almost all the inhabitants either accumulates in privy-pits, or else is discharged into the brook from the overhanging privies. *The Privies.*—Some are built of brick, very many of wood; but few are ventilated. In the better part of the town I saw many that were clean and well kept; almost all, however, smelt badly. In the poorer neighbourhoods some were tolerable, others decidedly bad, many execrable; as a rule, the poorer the people the worse the privy. *The Privy-pit* is often an immense hole in the ground, with the sides roughly bricked but not cemented. It is emptied either from a hole at the back of the privy structure, or the wooden floor is removed and the contents ladled out. The emptying is done at the discretion of the owner, who employs a night man to do the work; the latter individual, receiving the manure in part payment, disposes of it to a neighbouring farmer. Among the better class of people there is usually a privy to each house; among the poor there is often but one to each block of cottages. In the latter case very frequent emptying is necessary; consequently, the intervention of the Inspector of Nuisances is often called for. A few earth closets have been recently erected, and are managed at the expense of Mr. Lowndes. At the time of my visit they were clean, well kept, and entirely free from smell.

*Ash and Refuse Removal.*—There is no special arrangement for such removal. Among the better class of people ashes and refuse are not often allowed to accumulate to such an extent as to prove a nuisance. In the poorer districts where houses are often unprovided with ash-pits, the reverse is the case, and the Inspector is frequently called on to exercise his authority. Ashes and refuse are, like the privy contents, sold to the farmers.

*Paving and Scavenging.*—In the High Street and its neighbourhood the sidewalks are paved with stone, as are the open channels on each side of the road; all are fairly clean, and in good order. In the poorer quarters paving and channelling are of an inferior kind, and cleanliness is the exception.

*Houses.*—The better class are as well built and ventilated as those of most country towns. In the back streets, and courts, or yards, things are different; houses are smaller, closely packed, dirty, and ill-ventilated.

Many of the yards are so built that free circulation of air is impossible. In these yards live the poor and improvident of Chesham; dirt, overcrowding, and every description of nuisance abound.

Hearn's Yard, where the fever was at first localized, is, perhaps, the worst in the town; but there are others not much better. This yard, which was formerly a collection of farm-buildings, is surrounded on all sides by houses and high walls; it has but one entrance, viz., a narrow passage from Church Street; sixteen cottages, besides sheds, privies, and donkey-stables, are here crowded into a very small space, and, prior to the outbreak of fever, lodged upwards of eighty people. A description of one block of cottages in this yard will suffice to show the condition of the place and its inhabitants:—7 cottages in the block, which was once a cowshed; total number of rooms, 17; inhabitants, 39 (20 adults, 19 children); sleeping-rooms, 10, averaging, as stated by the Relieving Officer, 8 feet by 9, and 6 feet in height; windows, in front only, 2 feet by 2 feet 6 inches; many do not open; no fireplace in bedrooms; cottages out of repair, and filthy; inhabitants equally dirty, and of the lowest class; clothes and rags used as bedding, also filthy; corresponding state of things out of doors; rough attempts at surface-draining, resulting in accumulation of refuse in a kind of cesspool close at hand; slops, refuse, ashes, and even faeces scattered about the ground; 2 privies to the 7 cottages, rotten and dirty; 2 immense privy-pits under the floors, full to the top, and stinking horribly; cesspool of a privy, belonging to another block of cottages, “weeps” through the wall close in front of the doors. No well in the yard; all water fetched from Church Street. Fever occurred in every one of the cottages in this block, few of the thirty-nine inhabitants escaping it. Again, in a cottage in Star Yard, where fever had recently broken out, four cases of typhus were seen—father, mother, and two children. The parents in the only bedroom; the children in



an adjoining cupboard at the top of the ricketty stairs ; united cubic contents of room and cupboard, about 800 feet. Small diamond-paned window in bedroom, still smaller one in cupboard ; the former opened, the latter did not. No fireplace or other means of ventilation. Room horribly dirty, and atmosphere most offensive. The parents, in a broken-down old bed, covered by dirty rags, which had once been sheets and blankets, were at the worst stage of the disease. The man, who was evidently dying, lay on his back in a semi-conscious condition ; his countenance dusky, his breathing oppressed, lips and teeth covered with sordes, while through his partially open mouth his dry black tongue was readily visible. A dark mulberry rash covered his chest, arms, thighs, and abdomen ; on the latter were also petechiæ. His wife was in a scarcely better condition, and his daughter, a child of thirteen, was also extremely ill ; the other child, aged five to six, had a comparatively mild attack of fever. The children were huddled together on the floor of the cupboard, among some old rags, which did duty as bedding.

Having regard to the contagious quality of typhus, and the influence of overcrowding and filth in promoting its spread, the object of the Authorities, on the introduction of the disease into Chesham, should have been to prevent the dissemination of the disease in two ways : first, by isolating, as far as possible, the people who were attacked by the disease ; and, secondly, by removing the overcrowding and filth which were the conditions of the spread.

*Sanitary Authorities and their Action.*—The Board of Guardians of the Amersham Union is Nuisance Authority, and it employs an Inspector of Nuisances, at a salary of 12*l.* a-year, to attend to the sanitary and other wants of Chesham, and a neighbouring place called Chesham Bois. The Vestry of the parish of Chesham is the Sewer Authority. It appears that prior to the outbreak of the present epidemic, the Vestry had never exercised any of its powers as such Authority. During the progress of the fever, a Nuisance Committee of the Board of Guardians employed the Relieving Officer, as well as the Inspector of Nuisances, to report on the spread of the disease, and on the sanitary state of the place. They received advice and assistance from the Medical Officer of the Union, who, without holding any defined official position as Officer of Health, thought it his duty to do what was in his power to stop the epidemic.

In reference to the present epidemic, orders for the removal of nuisances have been issued and enforced, disinfectants have been distributed to the occupiers of infected houses, a few of the houses in which there was fever have been fumigated and lime-washed, and bedding has been disinfected and in some cases burned. A trained nurse from London has been employed to attend to the pauper cases ; and beef-tea and wine were furnished, partly by the parish, partly from a private source.

The most pressing duty of the Vestry as Sewer Authority during the present epidemic, was the provision of a place for the reception of the sick, under section 37 of the Sanitary Act, 1866. There is a cottage hospital in Chesham, but it is provided by private funds, and is not intended for infectious cases ; and the Vestry, as such, has no cognizance of it. At the time of my first visit, Mr. Hale, a private gentleman, had prepared plans of a temporary hospital, and was about to submit them to the Vestry, with a proposal that the expense of construction should be borne by a private fund, of which he was Trustee. On the day of my leaving Chesham, the Vestry decided that Mr. Hale's offer should be accepted, the Vestry undertaking to provide what was necessary for the use of the building as a hospital. At the same meeting it was decided, in accordance with a suggestion of my own, that the existing village hospital should be used for the purposes of the epidemic, its one patient being removed elsewhere. At a second visit to Chesham, two days after the first, I had the satisfaction of finding the village permanent hospital prepared for the reception of six cases of fever, and in charge of a nursing sister. I also found that a commencement of an iron temporary hospital had been made ; and I saw some indication of increased efficiency in sanitary management on the part of the Guardians, especially in arrangements whereby the overcrowding of infected cottages would in a few days be reduced. I was told that the block of cottages in Hearn's Yard, already described in this Report, have been purchased by Mr. Lowndes, who, I was given to understand, intended having them pulled down. I also obtained a promise that the nursing of pauper cases, in their own homes, should be rendered more efficient.

In addition to the measures required in Chesham to meet the existing emergency, the following sanitary requirements must receive the early attention of the several authorities :—

1. *In regard to Water Supply.*—Means must be taken by the Sewer Authority for furnishing wholesome water to every house in the district. There would appear to



be no difficulty in furnishing this supply; and, as soon as it is given, means should be taken for preventing the use of water from any impure or suspicious source.

2. *With regard to Drainage.*—For house-slop, and the washing of pigsties and slaughter-houses, and for foul refuse water generally, a system of drainage ought to be provided, so that these matters may be conveyed to the land. The discharge of filth into the brook should be discontinued, and the brook itself should be cleansed and deepened, so as to serve the natural purpose of carrying off rain and soil water. In this way the mill-pond will be relieved from future defilement, and steps should be taken for purifying it from the filth that has already accumulated in it. If it should prove necessary to lower the mill-dam in order to dry the foundation of houses near the brook, this also ought to be done.

3. *Excrement Removal.*—As soon as a system of drainage is provided, the houses that are already furnished with water-closets must be made to discharge their excrement into the foul-water sewers; all other houses must be dealt with by the Sewer Authority, so as to prevent excremental nuisance. For this purpose frequent cartage of privy contents, out of the town, may be adopted, in which case, either the pail system, or an improved midden closet, will be necessary; or, what would appear to be best adapted to the particular wants of Chesham, the earth system of excrement removal may be adopted. An account of the conditions under which any one of these three systems may be successfully worked in a place like Chesham, will be found in the Departmental Report. It is only necessary to say here that it is an essential condition for the success of any of those systems, that its working should not be left to the particular householder, but should be in the hands of the Authority itself. Houses that are deficient in any privy accommodation must be supplied with what is needful, or should not be allowed to be tenanted.

4. *Paving and Scavenging.*—Although paving is good, and scavenging fairly maintained in the better parts of Chesham, improvement in this respect is much needed in the bye-streets, and courts, or yards of the town. Care should be taken by the proper authority that refuse and slops are not thrown about on the ground; proper receptacles should be provided, and measures taken to prevent the surface channels being used for any other than their proper purpose.

5. *Houses.*—Should be looked after under medical advice, and those shut up that are not fit for habitation. The ventilation of all should be seen to, more particularly in some quarters, and overcrowding strictly repressed. If, as I was informed, the population of the town of Chesham is over 5,000, the Nuisance Authority should, under section 35 of the Sanitary Act of 1866, make regulations as to the houses that are occupied by more than one family. At present those houses are in a worse state as to overcrowding than the common lodging-houses of the town.

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At a third visit to Chesham yesterday (November 9th), I learned that there have been, since October 14, 19 fresh cases of fever, of which number 8 were admitted to the village hospital, and 9 to the iron building, while 2 remained in the town. It is reckoned that up to the present time there have been upwards of 80 cases of fever, and an equal number of cases of "measles;" 21 deaths from fever, and 4 from measles have been registered.

The hospitals, now in full working order, are well managed, and are sufficient for the purpose to which they have been applied. Fresh cases, as soon as reported by the medical men, are admitted to the temporary building by order of the Relieving Officer, while the permanent village hospital is kept for the convalescent cases. It is, however, to be feared that isolation of fever is not so complete as it should be, inasmuch as there is reason to believe that unqualified practitioners have attended fresh cases of fever among the poorer class of people without reporting them to the Relieving Officer.

Considerable activity has been shown in the matter of disinfection. On removal of a fever case an order is issued and enforced for the fumigation and subsequent lime-washing of the infected cottage. Carbolic acid is supplied for the disinfection of clothing and linen; while the bedding has been, I am told, in all cases burned. The overcrowding mentioned in my previous Report, I regret to say, remains, the arrangements contemplated for its reduction having come to nothing.

In conclusion, I am sorry to have to mention the extension and fatal tendency of the typhus among those who have been in close and continuous attendance on the sick

in Hearn's Yard and Church Street. To the present time, of 8 persons who have been, to my knowledge, so employed, 4 have taken the disease, viz., the two medical men, the St. John's Institution nurse, and the Vicar; 2 have died, viz., Mr. Faithorn, Medical Officer of the Union, and Jane Field, the St. John's Institution nurse. The former, who for many years was constant in his endeavours to promote sanitary reform in Chesham, took the disease after many weeks' constant attendance on the sick, and died on the thirteenth day; the latter who, as I myself can testify, was constant and untiring in her exertions on behalf of the inhabitants of Hearn's Yard and Church Street, took the disease after three weeks' exposure, and died on the fourteenth day. Of the two others affected, Mr. Churchill, I am glad to say, recovered, and is now at work again; while the Vicar, Mr. Aylward, is at present ill with fever of eleven days' duration. He, too, had been unremitting in ministrations to his sick parishioners. At the hospital a nurse, engaged to attend in-patients, has taken typhus after fourteen days' exposure to contagion, and is now at the eleventh day of the disease.

(Signed)

W. H. POWER.

Medical Department of Local Government Board,  
November 10, 1871.

P.S.—The epidemic of typhus at Chesham is now, it appears, nearly at an end. A Report of the Medical Officer of the Union, dated the 28th November, may be summarized thus:—*Fever*—One case only, and that doubtful, during the preceding fortnight. *Deaths* from typhus, since the 9th November, 3, including the Vicar and nurse, whose illness is mentioned in the foregoing Report. *Measles*—Still some cases. *Scarlatina* has recently made its appearance.